

## HEDGEROWS IN THE ROCKY MOUNTAIN REGION

(ASLA Colorado Magazine, "Exposures", vol. 2, issue 1, May 2010, "Sustainability Issue")

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Agricultural societies have used hedgerows for centuries to define property lines and contain domestic animals. Ancient hedgerows in Europe are recognized as important historical and ecological resources. European immigrants brought the use of hedgerows to America, continuing that tradition.

Most states utilize some form of hedgerows to protect cropland. Protection from adverse wind has been the primary purpose for hedgerows in the United States, and have thus been referred to as windbreaks or shelterbelts, and planted in long, narrow rows. We in Colorado have long used windbreaks to mitigate the effects of wind, beginning primarily as a remedy to the Midwest dust bowl of the 1930s.

These linear plantings of trees and shrubs now serve a variety of purposes in addition to the reduction of wind erosion: improved irrigation effectiveness, protection of growing crops, shelter for buildings and livestock, snow management, and wildlife habitat. The hedgerow form in the landscape reminds us of the history of our land and is a partial restoration of lost natural habitat.

With the increased population living in urban/suburban environments, there is a need to extend the benefits of rural hedgerows. They can delineate property lines, defining land ownership and communities, screen off unsightly views, and provide privacy from neighbors. A mixed border of trees and shrubs can provide structure, texture, pattern, and shade to the subdivision common areas as well as to individual lots. A well-integrated hedgerow planting can then become a reflection of the qualities that historic rural patterns hold for us. And, they can establish a distinctive character to a neighborhood locality.

Hedgerows can help regulate the climate due to its concentration of plant mixtures. They can significantly reduce the rate of climate change through the absorption of carbon and filter the air; reducing airborne particulates. The extensive plantings also provide shade for wildlife, domestic animals, and people.

Mitigating the effects of wind is an important benefit of hedgerows. Soil erosion due to wind has been a huge problem. Hedgerows help to control wind erosion and reduce evaporation from the soil. They can also serve as a "living snow fence" accumulating blowing snow and determining snow depositions. This can protect areas such as driveways, parking lots, and roads from excessive snow drifting, and collect the snow in other places for water harvesting.

They moderate runoff by slowing the flow of water and providing greater water-holding capacity; allowing greater infiltration, and reducing soil erosion and the flow of sediment into water courses. Extremes of high and low water flow are mitigated, reducing flooding and slowing the release of water, maintaining better, more even streamflows. And, they help control and filter pollutants such as fertilizers, pesticides, road oils and chemicals, which are fouling our waterways..

Hedgerows can provide a semi-natural habitat for native plants and animals. The use of a large variety of native trees, shrubs, grasses and perennials creates a biodiverse hedgerow, with cover, food, and homes for native creatures. Native plant mixtures enhance local ecosystems, benefiting native species threatened from habitat loss. Songbirds, bats, butterflies, and other creatures, rare and common, need that habitat loss supplemented.

The linear form of hedgerows can bridge larger natural habitats as well as provide extensive connected networks in themselves. Corridors for wildlife movement through the landscape are important to avoid the limitations of isolated islands of refuge, and provide linkages between them. The margins of the hedgerow are also important to many animals, allowing an open field of vision from a protected location.

Hedgerows need to be incorporated in land planning of subdivisions and urban remediation in the Rocky Mountain region to enhance the natural environment where people live – not just in natural wilderness. They can serve as buffer strips, reduce stormwater runoff, improve water quality and add wildlife habitat. In urban/suburban settings hedgerows reduce noise, screen off bad views and provide privacy. And, as in the traditional use of windbreaks in rural areas, hedgerows:

- Regulate the climate and establish congenial microclimates.
- Provide shade and shelter from adverse weather for pets and people
- Decrease wind speed, making irrigation systems more efficient and reducing heating costs by 10-30%.
- Manage snow deposition.
- Improve the aesthetic appeal.
- Increase property values.

In addition, because windbreaks in rural areas are declining, hedgerows need to be established in our populated areas to compensate for those losses. In the windbreak states of the Great Plains new plantings are not as prevalent as before. Many existing windbreaks are damaged by pesticide use and eliminated by consolidation of smaller farms into larger entities.

A sense of place and continuity in urban and suburban communities may be achieved by establishing extensive hedgerows. They provide distinctive ecological enhancements and aesthetic cultural associations. The efforts of people long before has given us the amenities we enjoy, and we need to follow their example of planting now for ourselves and future generations.